

U.S. DEPARTMENT OF TRANSPORTATION	TCDS NUMBER: P21BO
FEDERAL AVIATION ADMINISTRATION	REVISION: 2
TYPE CERTIFICATE DATA SHEET P21BO	AVIA PROPELLER LTD.
	MODEL/S: AVIA V508, V508B, V508D, V508D-2, V508D-AG, V508E, V508Z, V508E-AG
	NOVEMBER 1, 2002

This Data Sheet, which is part of Type Certificate No. P21BO, prescribes conditions and limitations under which the product meets the airworthiness requirements of the Federal Aviation Regulations.

TYPE CERTIFICATE  
HOLDER

AVIA PROPELLER LTD.  
Beranových 666  
Praha 9 – Letnany  
199 00  
Czech Republic

TYPE

Constant speed; hydraulic; variable pitch tractor

ENGINE SHAFT

Flanged: 4.25" (107.95 mm) bolt circle

HUB MATERIAL

Steel (forging)

BLADE MATERIAL

Aluminum Alloy (forging)

NUMBER OF BLADES

3

DESIGN SERIES

AVIA V508, V508B, V508D, V508D-2, V508D-AG, V508Z, V508E, V508E-AG

HUB	BLADE NOTE 2	MAXIMUM CONTINUOUS		<TAKE OFF>		NOMINAL DIAMETER inches/cm	APPROXIMATE WEIGHT lbs./kg. See NOTE 8
		HP KW	/ RPM	HP KW	/ RPM		
See NOTE 1	059-1100	777.4	2080	777.4	2080	99 in.	147.2 lbs. - 152 lbs.
	(066-1000	580		580		250 cm.	66.8 kg. - 69 kg.
	066-1000.1						
	070-1000)						
See NOTE 1	076-1100	777.4	2080	777.4	2080	99 in.	144 lbs. - 149 lbs.
	(076-1000.2	580		580		250 cm.	65.3 kg. - 67.5 kg.
	076-1000						
	077-1000)						
See NOTE 1	076-1100.1	777.4	2080	777.4	2080	84.0 in.	141 lbs. - 145 lbs.
	(076-1000.3	580		580		213.4 cm.	63.8 kg. - 66 kg.
	076-1000.1						
	077-1000.1)						
See NOTE 1	076-1100.2	777.4	2080	777.4	2080	106 in.	147.2 lbs. - 152 lbs.
	(076-1000.4	580		580		270 cm	66.8 kg - 69 kg
	076-1000.5						
	077-1000.2)						

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CERTIFICATION BASIS: The U.S. certification basis determined under Section 21.29 of the FAR and Bilateral Airworthiness Agreement between the United States and the Czech Republic is FAR 35, effective February 1, 1965, Amendment: 35-1 to 35-6 inclusive.

TC (IMPORT) NO.

TC APPLICATION DATE: June 21, 2000

TC ISSUED: January 11, 2001, revised April 5, 2002 and November 1, 2002

IMPORT REQUIREMENTS: To be considered eligible for installation on U.S. registered aircraft, each propeller to be exported to the United States shall be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting cognizant civil airworthiness authority which contains the following language:

(1) This propeller conforms to its United States type design (Type Certificate number P21BO and is in a condition for safe operation.

(2) This propeller has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference FAR Section 21.500 which provides for the airworthiness acceptance of aircraft engines or propellers manufactured outside the U.S. for which a U.S. type certificate has been issued.

Additional guidance is contained in FAA Advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers and Related Products, Imported into the United States.

NOTE 1: Hub model designation.

059-2000	propeller V508
065-2000	propeller V508B
066-2000	propeller V508D
074-2000	propeller V508D-2
081-2000	propeller V508D-AG
070-2000	propeller V508Z
076-2000	propeller V508E
077-2000	propeller V508E-AG

NOTE 2: Propeller blades designation.

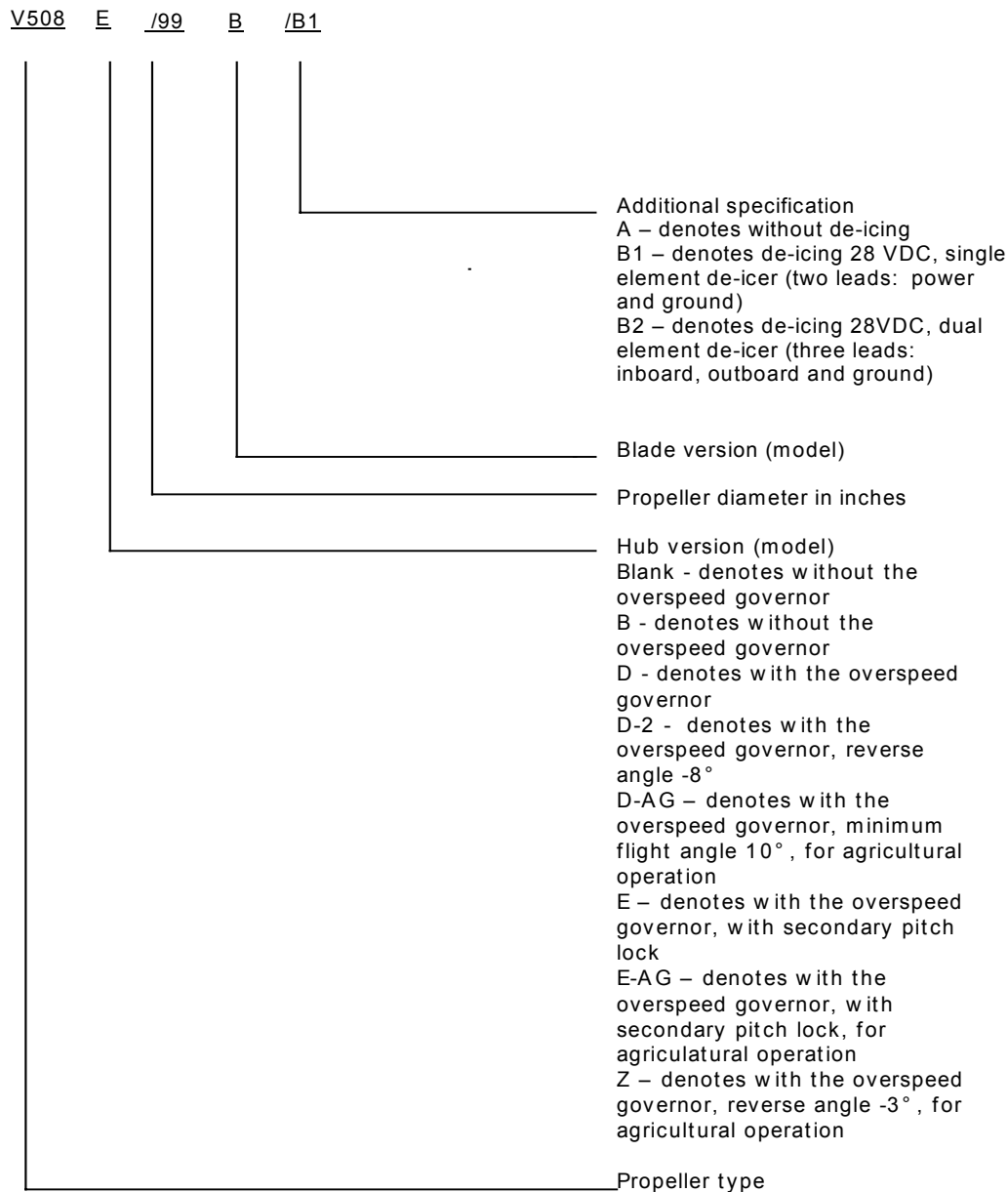
- (a) 99A - Basic blade model designation - blade drawing P/N 059-1100, clockwise rotation (propeller diameter 2500 mm)
  - (1) 99A/B1 - P/N 066-1000 - blade with de-icing for versions: V508, V508B, V508D, V508D-2, V508E
  - (2) 99A/B2 - P/N 066-1000.1 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (3) 99A/A - P/N 070-1000 - blade without de-icer for all versions
- (b) 99B - Basic blade model designation - blade drawing P/N 076-1100, clockwise rotation (propeller diameter 2500 mm)
  - (1) 99B/B1 - P/N 076-1000.2 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (2) 99B/B2 - P/N 076-1000 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (3) 99B/A - P/N 077-1000 - blade without de-icer for all versions

- (c) 84 - Basic blade model designation - blade drawing P/N 076-1100.1, clockwise rotation (propeller diameter 2134 mm)
  - (1) 84/B1 - P/N 076-1000.3 - blades with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (2) 84/B2 - P/N 076-1000.1 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (3) 84/A - P/N 077-1000.1 - blade without de-icer for all versions
  
- (c) 106 - Basic blade model designation - blade drawing P/N 076-1100.2, clockwise rotation (propeller diameter 2700 mm)
  - (1) 106/B1 - P/N 076-1000.4 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (2) 106/B2 - P/N 076-1000.5 - blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  - (3) 106/A - P/N 077-1000.2 - blade without de-icer for all versions

## NOTE 3:

Propeller designation.

The complete propeller designation is a combination of propeller hub, propeller blade and additional specification.



## NOTE 4:

Pitch control.

(a) The propellers are approved for flight operation with propeller speed governors:

(1) without secondary pitch lock:

- LUN 7815 - for version: V508
- LUN 7815.01 - for version: V508B
- LUN 7815.02 - for versions: V508D and V508D-AG
- LUN 7815.03 - for versions: V508Z and V508D-2

(2) with secondary pitch lock

- LUN 7816 - for versions: V508E and V508E-AG
- LUN 7816.01 - for versions: V508E and V508E-AG
- LUN 7816.02 - for versions: V508E and V508E-AG

- (b) The propellers are approved for flight operation with propeller overspeed governor:
- (1) 065-2600 - for versions: V508D, V508D-AG, V508D-2, V508E and V508E-AG
  - (2) 070-2600 - for version V508Z

## NOTE 5:

(a) Feathering.

The propellers incorporate feathering and unfeathering features when equipped with appropriate mounted instruments (see Note 4 and 8). Blade feathering is accomplished by:

- (1) by oil pressure - all versions
- (2) by outweighing moment of counterweights - all versions

(b) Reversing.

All propellers models incorporate reversing feature when equipped with appropriate mounted instruments (See Note 4). Maximum reverse angle for propeller diameter of 2134 mm/84" and 2500 mm/99: (2700 mm/106")

- |  |                   |
|--|-------------------|
| (1) V508, V508B, V508D, V508D-AG and V508E |                   |
| V508E-AG                                   | -18°30' (-21°30') |
| (2) V508Z                                  | -3°(-6°)          |
| (3) V508D-2                                | -8°(-11°)         |

## NOTE 6:

Clockwise rotation.

- (a) Rotation of the approved propellers is clockwise when looking from the engine side.

## NOTE 7:

Interchangeability of the propeller blades.

Not applicable.

## NOTE 8:

Accessories.

- (a) The propellers are approved for flight operation with the following accessories:

- (1) Propeller speed governor (see Note 4)
- (2) Propeller overspeed governor (see Note 4)
- (3) Electric-hydraulic controller LUN 7880.01  
- for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG and V508E-AG
- (4) Auxiliary pump LUN 7840  
- for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG
- (5) Pressure switch 0.7S LUN 1469-13  
- for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG
- (6) Time relay LUN 2601  
- for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG
- (7) Timer LUN 3190  
- for versions: V508, V508B, V508D, V508D-2, V508E
- (8) Brush Block P 3560  
- for versions: V508, V508B, V508D, V508D-2, V508E  
Brush Block Goodrich 3E2565-1  
- for versions: V508, V508B, V508D, V508D-2, V508E  
Brush Block P/N 066-6100  
- for versions: V508, V508B, V508D, V508D-2, V508E

## (b) Propellers de-icing

- (1) The following propeller assembly drawings denote the de-icing electrical installations:

Propeller hub: V508	- P/N 059-000
Propeller hub: V508B	- P/N 065-0000
Propeller hub: V508D	- P/N 066-0000
Propeller hub: V508D-2	- P/N 074-0000
Propeller hub: V508E	- P/N 076-0000

- (2) The following blade assembly drawings define the installation of the de-icer on the blade:

P/N 066-1000	Goodrich de-icer P/N C-7057
P/N 066-1000.1	Goodrich de-icer P/N C-7073
P/N 076-1000.2	Goodrich de-icer P/N C-7057
P/N 076-1000	Goodrich de-icer P/N C-7073
P/N 076-1000.3	Goodrich de-icer P/N C-7057
P/N 076-1000.1	Goodrich de-icer P/N C-7073
P/N 076-1000.4	Goodrich de-icer P/N C-7057
P/N 076-1000.5	Goodrich de-icer P/N C7073

- (c) Propeller spinner.

- (1) Weight of the propeller spinner is included in the total weight of propeller.

NOTE 9. Shank fairings.  
Not applicable.

NOTE 10. Special limits.

Time between overhauls are defined in these documents, under “Airworthiness Limitations”.

Version (model)	Overhaul Manual (part number)	Installation and Operation Manual (part number)
V508, V508B		
V508D, V508D-2	059-8952.7	059-8912.7
V508D-AG		
V508E, V508E-AG		
V508Z		

Operating and Service Instructions.

Instructions for continued airworthiness are listed in these documents:

Version (model)	Overhaul Manual (part number)	Installation and Operation Manual (part number)	V508 Series Parts Catalogue (part number)
V508, V508B			
V508D			
V508D-2	059-8952.7	059-8912.7	059-8922.7
V508D-AG			
V508E, V508E-AG			
V508Z			

NOTE: 11. Special notes.

- (a) Aircraft propeller installations must be approved as part of the aircraft type certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

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